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sideration of the great galaxy of previous choices and evaluations; not merely learning what Spinoza or Plato thought, but feeling within himself what it was they clove to, what it was they desired. He who would be a philosopher must learn to feel with the philosophers, as well as think with them; and pass judgments of final preference with them. And here their errors are seldom to be dwelt upon; but the tone and color and flavor of their vision are a priceless heritage, a new glory that is given to all mankind.

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PURPOSE AS A CONSCIOUS CONCEPT

IN their repudiation of anthropomorphism as a method of explanation both scientists and philosophers agree. The significance of mechanism as explanation has been such a hard won and widely profitable achievement that any suggestion to curtail its application naturally arouses vigorous opposition. But that there may be advocated a method of procedure the converse of anthropomorphism, carrying in its train consequences which may be no less serious, appears to be not so generally recognized. That is, in contrast to psychomorphism (the modern refinement of the older anthropomorphism) physicomorphism (if I may be allowed to use the expression) is practised when physical concepts are applied to a realm where their employment is not so much superfluous for explanation as it is unintelligible. To extend mechanical description so as to include all activities of living beings is, I take it, an instance of this nature.

Professor Warren's study of purpose¹ with its point of departure in the analysis of conscious purpose affords a particularly valuable basis for the thesis I wish to elaborate in this paper. The biological approach to the discussion, while the fundamental conclusion is in general agreement with the position of Professor Warren, has proceeded (and naturally so) in the direction of proving that experimental evidence is favorable to the physiochemical conception of certain activities of living beings characterized as purposeful. The further implication is suggested that all organic activities may eventually be included under the same rubric. Here, psychological categories are assimilated to biological, purpose is one type of physiochemical description. In Professor Warren's discussion, on the other hand, it is a significant fact that the analysis of the conscious experi-

¹ *A Study of Purpose*, this JOURNAL, Vol. XIII. (1916).

ence comes first. Here the elimination of certain factors usually considered essential to conscious purpose is effected with the result that the biological processes are assimilated to the mental events. Now the argument I propose to develop in the following pages maintains that this elimination of any peculiar features of conscious experience and the assimilation which follows is made possible by a fundamental confusion in the distinction between the mental and the physical, a confusion bound up with the ambiguous use of certain terms employed in the description of conscious purpose. If the basal assumption concerning the relation of the mental and the physical rests upon their absolute existential disparateness, it may prove that the type of psychology which, while recognizing this distinction as relevant to one stage of explanation, advances to another level of interpretation of the diversity points the way to a dissolution of the confusion.

We proceed to the analysis of conscious purpose. Briefly, the final conclusion reached as the result of the examination of purposive experience is that anticipation and fitness are characteristics which distinguish this type of experience from other series of mental events. The illustration which serves to illustrate this fact is as follows: "I am reading and it grows dark. I think of turning on the electric light and without hesitation the action is performed." That is, psychologically, the series of events consists in the perception of darkness, the idea of light and the perception of light. The idea of turning on the light constitutes the forethought or the anticipatory experience. The analysis then proceeds to affirm (and here we come upon the crucial point in the description) that the peculiarity of this experience, that which renders it purposive, is the fact that it embodies an inversion of the usual order of events. In general the representation or idea follows the perception; in this type of experience the idea precedes the perception. The point that I desire to advance here is that this statement gets its only possible meaning from an ambiguous use of the term idea or representation. The meaning of the term idea which can be involved in the statement that the idea generally follows the perception is relevant to a *specific perception*, a definite experience which for certain reasons is designated a perception. The representation is a representation of the specific experience to which it refers, a reproduction in the sense of lacking the characteristic of the perceptive factor, and this it is as a matter of definition. On the other hand the employment of the term idea in the description expressed in the statement, the idea or representation precedes the perception, involves a different significance. Manifestly it can not be solely a representation, a reproduction in the sense of being a replica embodying a definite previous

experience. In other words, idea here is not merely if at all a representation of what has happened. It consists of a prerepresentation and embodies an antecedent occurrence to just the extent that it contains elements which have been previously given in a perception. But, on the other hand, it can be characterized as anticipatory, as forethought, because it involves additional factors or qualities (whatever these may turn out to be) not discovered in the perceptive experience. It is representation plus a prospective element: the representation has reference to a future experience. In some manner this fact of future reference as embodied in the present experience must be taken into account since it is the pivotal point of the whole analytical description.

Let us revert to the instance given above in which the order of events was presented as, the perception of dark, the idea of light, the perception of light. Does analysis reveal these occurrences as a successive series, or does not a closer scrutiny disclose that finding more harmonious with the facts, which discovers perception of dark and idea of light to be simultaneous factors in a single complex?² Perception of dark is the experience of an absence of light, absence being a privation and therefore denoting something (in this case the darkness) to be removed or replaced by a different condition. It means the presence of the future light in the only sense in which it can be present without committing a contradiction in terms. Thus there is discovered a meaning in the statement, the future event influences a present. The future as future can not conceivably affect a present, but the future as a present future or idea is a conception which we may entertain.

Furthermore, if this forethought which marks the distinguishing trait of conscious purpose functions in a manner similar to the sensory element in all perception, and differs only in the fact that the prospective element is less definitely in consciousness in purposive experience, then conscious purpose is a special case of the purposiveness of all mental life. For example, I am walking along the street, I see a person advancing towards me from the opposite direction, I turn to the right to avoid a collision all the while continuing my conversation with the friend at my side, having performed this action with no obvious notion of so doing. In this case we have the element *to turn aside* bound up with the sensory patch of color, parallel to the forethought in the instance above, but differing from it in emphasis so that it is not apparent to immediate inspection. The perception itself involves elements which function in a manner similar to that of the forethought. That is, the sensory stimulus,

² John Dewey, *The Reflex Arc Concept in Psychology*, *The Psychological Review*, Vol. III. (1896).

the patch of color, involved the reference to the obstacle to be avoided, the turning aside, a possible future experience.

This suggests the consideration of an important point in connection with the description of a purposive experience. As noted above the typical order of events was designated as follows: perception, idea, perception, these distinctions being those of the psychologist or observer, and not those of the experiencing individual. These distinctions, accepted without question by the psychologist, with the assumption that they would be the utterance of the experiencing agent, could he articulate the events in such terms, permits the vibration between the two sets of categories pertaining to the physical and the mental respectively, and thereby results in the violation of the basal standpoint of the discussion. Thus if the individual's description which runs, it is dark, I must turn on the light, the light is here, should be rendered in general terms the series would be, first a physical fact (it is dark), second a mental event (the idea of turning on the light), and third a physical fact. That is, the first member of this order *is accepted as* a physical fact or more exactly a physical fact is there involved, and is not apprehended as a perception, if by perception is intended a mental event. The same thing may be said of the final perception which is characterized as fit. The psychologist differentiates perception and idea by the possession of a sensory datum in the former. This distinction involves a reference to a physiological condition, which can not be included in the account of the experiencing agent in so far as he is limited to the particular experience under consideration. That is, purporting to give a description of a series of events within the conscious realm, a distinction in the nature of these processes is made which involves, but does not explicitly recognize, an extra-mental factor.

To sum up the conclusion of this discussion of purposive consciousness, we find that, instead of revealing an inversion of causal order, anticipation gets its significance from the fact of a non-causal or non-mechanical description of events. This, we must recall, is the result of the analysis of our description of a subjective process; it is a matter of meaning and in no sense a proof derived through objective observation or experimental evidence concerned with physiological processes. This latter point brings us to the consideration of biological purpose.

We come now to the concept of purpose as applied to certain activities of living beings. I say certain activities advisedly, because it is in general only to specific types of organic activities and not to all vital processes that this category is ascribed. Professor Warren maintains that the distinguishing characteristics of such processes

are found in the phenomenon of anticipation followed by an activity which is designated as fit, this latter quality being a judgment of the observer and not a quality inherent in the process. For example, the animal seeking its prey actually begins the process of seizing and masticating before the food is possessed. The animal striving to get out of the cage and to obtain food prepares for that result by beginning some of the activities involved in eating before that process is operative. An activity of this sort is anticipatory in view of the later process for which it is a preparation. In other terms, it exhibits a reaction to a situation before the situation to which it is a response exists.

Now while it is asserted that such operations in terms of their own inherent qualities must be conceived as strictly mechanical or capable of adequate description in physiochemical terms,³ according to Professor Warren they are purposive in so far as the mechanical process exhibits an order which is the reversal of the usual causal order.⁴ Masticating generally takes place only when the food is in the mouth. Occurring before this event, it is a preparation for it. Now the point I wish to emphasize in this connection is that it is allowed that only from the point of view of the observer can the phenomenon of anticipation be said to exist. To repeat, the process viewed with respect to its own inherent qualities is physiochemical, mechanical, causal. We ask then, what is the significance of the introduction of the point of view of the observer? Is it a justifiable basis for the characterization of a process as purposeful with the applications derived from it? The conclusion I desire to advance, respecting this point, is that ultimately this reference to the observer resolves itself into the inclusion of the process which is being inspected under some more comprehensive situation. In the instance noted above, the masticating considered with reference to the actual possession of the food, the consumption of which makes for the well-being of the animal, is purposive. If this be granted, then the ground for designating the particular types of activities specified, as anticipatory, is removed. Any eating process in so far as it tends to the survival of the individual might be considered as preparatory to such

³ We are not here concerned with such a conception as the entelechy of Driesch which superimposes an additional explanatory element upon the physical account.

⁴ In asserting the fact of an inversion of the causal order such modifying phrases as, in a sense, of a type, so to speak, are frequently interpolated. The contention which follows ascribes to them a far more important function in obtaining the results reached by Professor Warren than appears to be assigned to them.

a result⁵ provided our interest was concerned with that fact, and this is not admitted in the conception of purpose defended. That is, if we appreciate the reason for characterizing a stage of a physiological process as anticipatory with respect to the end term selected by the interest of the observer, then any earlier step of such a process may be viewed under given circumstances as preparatory to a particular result. That is, preparation for an end has no more significance than a sequence of before and after except as the observer selects a member of the series (arbitrarily as far as the series above is concerned) which he fixes as a result, even if his motive is grounded in a fact without the investigation. The procedure in such an explanation reduces to the setting up of limits to the domain of a problem, and then transcending those boundaries by enlarging the field to include data not relevant to the terms of the original problem. The physicochemical process described in terms of its own inherent qualities derives its term denoted as final from the interest of the observer (in this case, concerned with the survival of the individual), in the same manner as this process (the survival of the individual) gets its characterization from its relation to a more inclusive body of physical facts (an environment). Or, approaching the matter from a different angle, it might be said that neither of these processes owes its character to the point of view of the observer, if we consider that the human interest may be disregarded in the special problem as is the case in general scientific procedure. Considered from its effect upon survival of the individual, eating in general or breathing is just as much and just as little anticipatory as the initial mastication is to the catching of the prey. Thus, all such expressions as end of activity, result, prospective propensity, controlling propensity,⁶ preferred or selected responses, employed by their various authors to denote the peculiarity of purposive organic processes, are simply so many diverse ways of denoting the relation of the particular activity under discussion to other more comprehensive processes and should be divested of any additional implication.

There is a conceivable meaning which could be attached to the characterization of an organic process as anticipatory (inherently so), and that is, in the event that a non-physical or mental element (such as a vague feeling in the case of the animal striving to get out

⁵ The fact that intervening acts must occur before the end process, in relation to which the first member of the series is characterized as preparatory, in no way affects this statement.

⁶ R. B. Perry, *Psychological Review*, January, 1918, p. 12. "It is essential that the action should be thus determined by its relation of prospective congruence with a controlling propensity which is both prior and more general."

of the cage, or a vague idea of the food resulting in the masticating before the prey is caught) determines any part of the activity, we should be obliged to assert then not a reversal of the causal order, but rather a non-causal sequence to the extent to which that factor entered into the determination of the process. I am not here contending for any such hypothesis; I merely desire to point out an intelligible conception of the expression, the response to a situation in advance of the existence of that situation. On any other basis such phrases as dissatisfaction and striving employed in connection with the description of what is held to be a series of physical events, even in the capacity of inefficacious correlates, have no significance nor excuse for being. Variability and selectiveness in response, conceptions taken over from mental life, are rendered unintelligible when made descriptive of strictly mechanical series. From the standpoint propounded there can be no variation of response; every reaction is as necessary as every other. Picturesqueness here tends toward confusion and does not assist in clarification.

If the above considerations concerning the significance of a description based upon the point of view of the observer hold, then the basis for assimilating organic purpose to conscious purpose disappears. There is no meaning in the reversal of a causal order if a physical explanation obtains. There is no place for a concept of preparation or anticipation employed in a sense which permits it to serve as a basis for agreement between the two divergent orders of events distinguished as mental and organic, the latter ultimately reducible to a special type of physical process. If the assumption of psychophysical parallelism proves not so clear and satisfactory in its developments as it may appear to be, is it inevitable that an hypothesis diverse from this necessarily retards the study of the brain and nervous system?⁷

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"DUALISM AND ANIMAL PSYCHOLOGY:" A REJOINDER

PROFESSOR WASHBURN'S reply to my recent article *Dualism in Animal Psychology* raises so clearly and insistently the fundamental issues in dispute between the dualist and the behaviorist, that a rejoinder seems imperative, the more so since my article failed to make clear in certain matters the real point of my criticism.

⁷ E. B. Holt, *The Concept of Consciousness*, p. 308. "Now in attempting this deductive account of consciousness, I have had one prime purpose in view, and that is to free once and for all the study of the physiology of the brain and nervous system from its present and retarding association with metaphysics."